



DOE-EM/GJ1147-2006

## 299-E24-63 (A5918) Log Data Report

### Borehole Information:

<b>Borehole:</b> 299-E24-63 (A5918)		<b>Site:</b> 216-A-9 Crib			
<b>Coordinates (WA St Plane)</b>		<b>GWL<sup>1</sup> (ft):</b> None		<b>GWL Date:</b> N/A	
<b>North</b> 136081.688	<b>East</b> 575065.93	<b>Drill Date</b> 12/52	<b>Elevation (ft) (TOC)</b> 699.26	<b>Total Depth (ft)</b> 83.5	<b>Type</b> Cable

### Casing Information:

<b>Casing Type</b>	<b>Stickup (ft)</b>	<b>Outer Diameter (in.)</b>	<b>Inside Diameter (in.)</b>	<b>Thickness (in.)</b>	<b>Top (ft)</b>	<b>Bottom (ft)</b>
Welded steel	1.7	8 5/8	8	5/16	1.7	83.5

### Borehole Notes:

Casing diameter and stickup measurements were acquired using a caliper and steel tape. Logging data acquisition is referenced to the top of casing (TOC). According to the driller's log, this borehole was originally drilled to 83.5 ft. The maximum depth achieved with the SGLS is 51 ft.

### Spectral Gamma Logging System (SGLS) Equipment Information:

<b>Logging System:</b> Gamma 4N		<b>Type:</b> SGLS (60%) SN: 45-TP22010A	
<b>Effective Calibration Date:</b> 08/03/05		<b>Calibration Reference:</b> DOE/EM-GJ953-2005	
		<b>Logging Procedure:</b> MAC-HGLP 1.6.5, Rev. 0	

### Spectral Gamma Logging System (SGLS) Log Run Information:

<b>Log Run</b>	<b>1</b>	<b>2 Repeat</b>			
Date	12/29/05	12/29/05			
Logging Engineer	Spatz	Spatz			
Start Depth (ft)	51.0	7.0			
Finish Depth (ft)	2.0	2.0			
Count Time (sec)	100	100			
Live/Real	R	R			
Shield (Y/N)	N	N			
MSA Interval (ft)	1.0	1.0			
ft/min	N/A <sup>2</sup>	N/A			
Pre-Verification	DN031CAB	DN031CAB			
Start File	DN031000	DN031050			
Finish File	DN031049	DN031055			
Post-Verification	DE031CAA	DE031CAA			
Depth Return Error (in.)	N/A	- 0.5			

<b>Log Run</b>	<b>1</b>	<b>2 Repeat</b>			
Comments	No fine-gain adjustment	No fine-gain adjustment			

### **Logging Operation Notes:**

Logging was conducted with a centralizer on the sonde. A repeat section was collected to evaluate the logging system's performance.

### **Analysis Notes:**

<b>Analyst:</b>	Henwood	<b>Date:</b>	03/06/06	<b>Reference:</b>	GJO-HGLP 1.6.3, Rev. 0
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Pre-run and post-run verifications for the logging systems were performed before and after the day's data acquisition. Acceptance criteria were met.

SGLS spectra were processed in batch mode using APTEC SUPERVISOR to identify individual energy peaks and determine count rates. Concentrations were calculated using the EXCEL worksheet template identified as G4NAug05.xls. A casing correction for 0.3125-in.-thick casing was applied to the SGLS data. No corrections for dead time or water were required.

### **Results and Interpretations:**

<sup>137</sup>Cs was detected from 2 to 5 ft at a maximum concentration of 0.4 pCi/g.

The repeat section for the SGLS indicate good agreement for the naturally occurring and man-made radionuclides.

### **List of Plots:**

Man-Made Radionuclides  
Natural Gamma Logs  
Combination Plot  
Total Gamma and Dead Time  
Repeat Section for Man-Made Radionuclides  
Repeat Section of Natural Gamma Logs

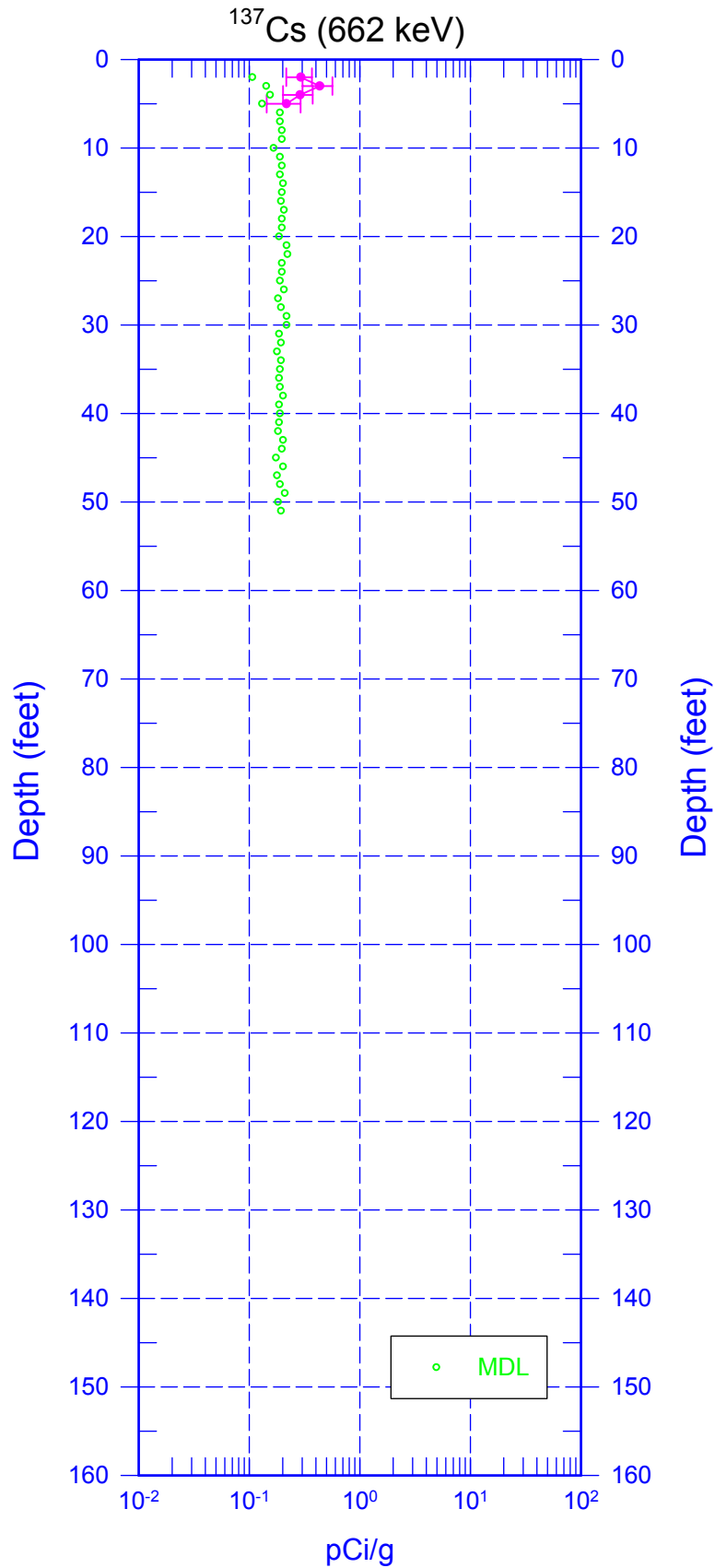
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<sup>1</sup> GWL – groundwater level

<sup>2</sup> N/A – not applicable

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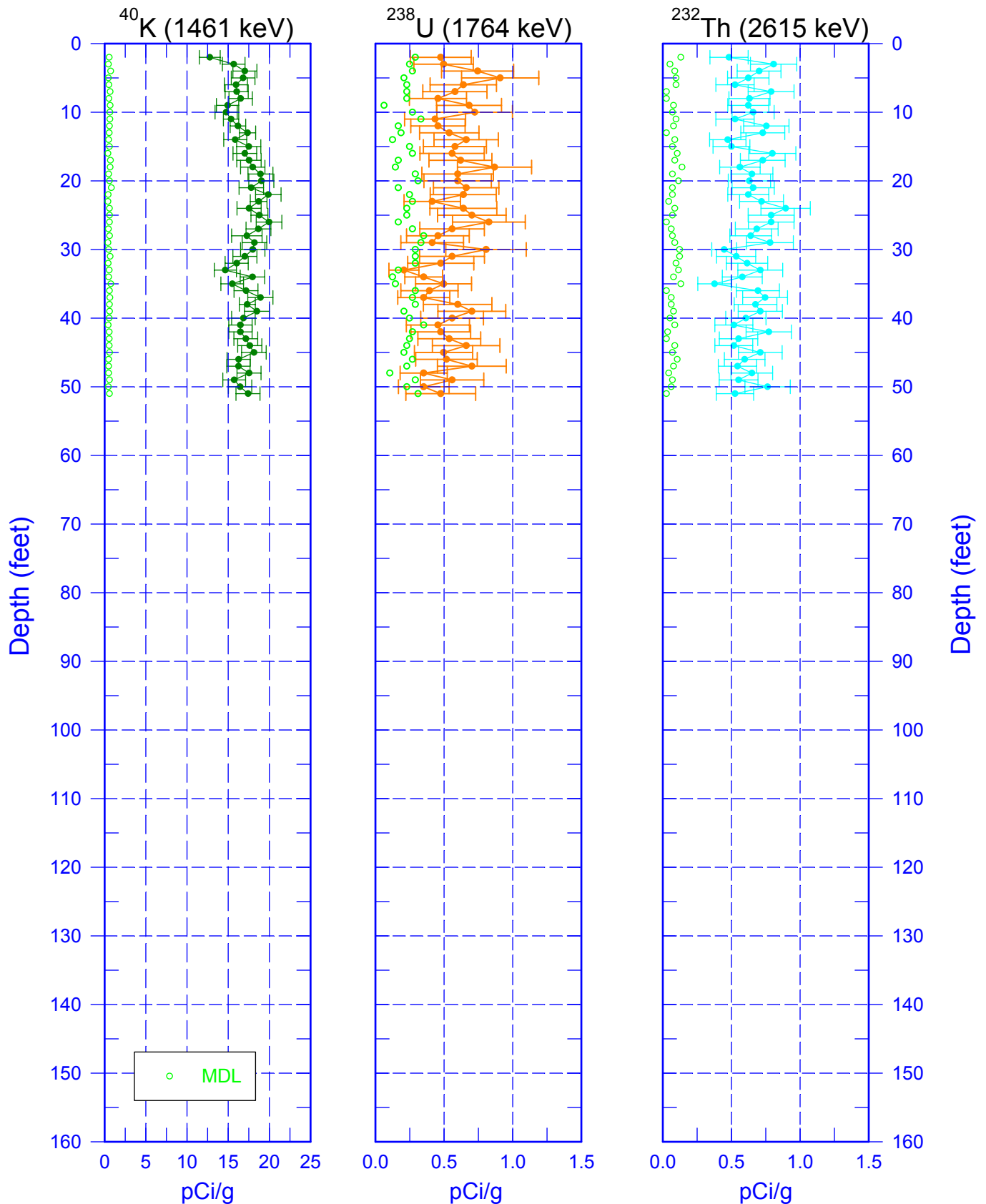
## Man-Made Radionuclides



Zero Reference - Top of Casing

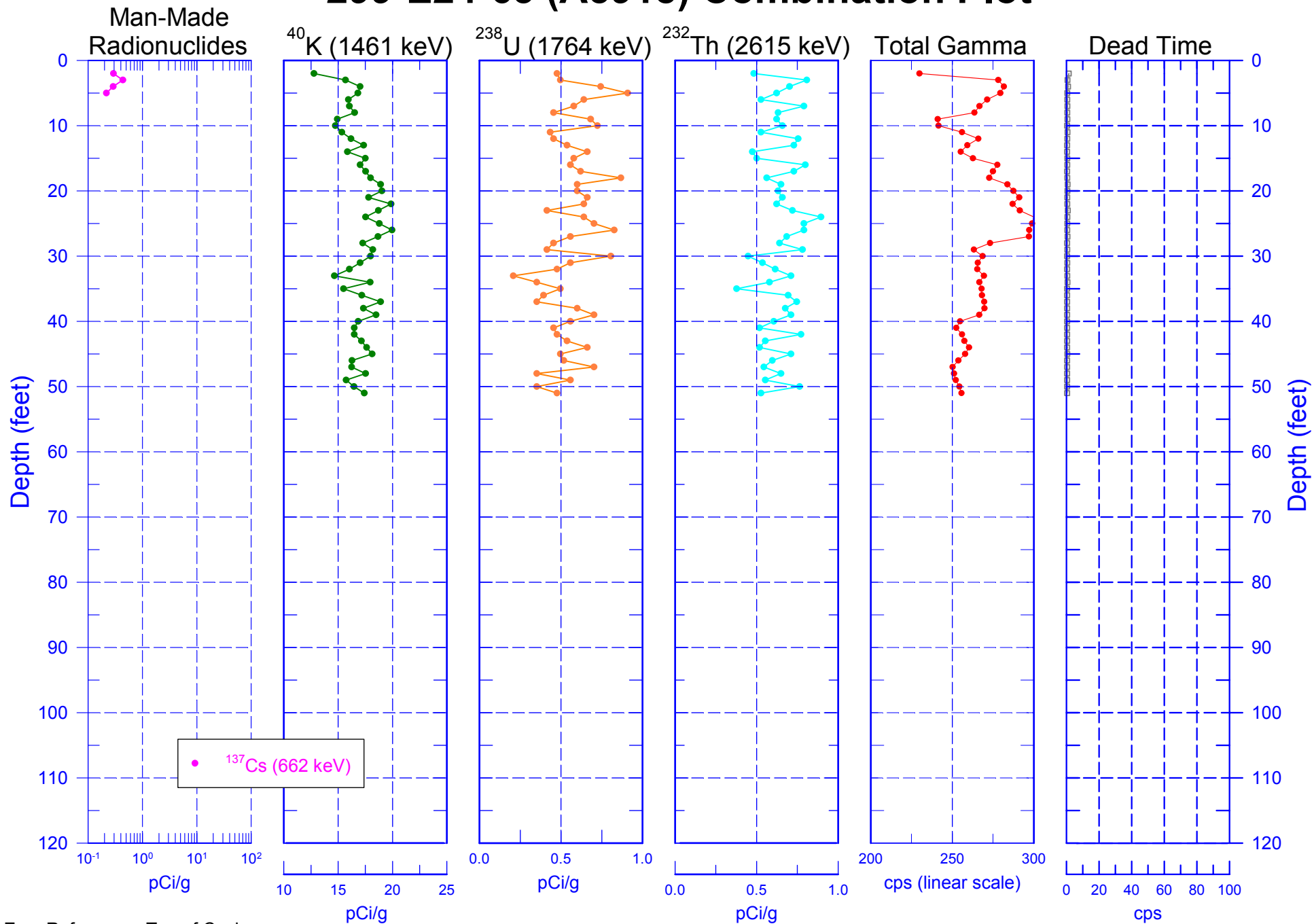
# 299-E24-63 (A5918)

## Natural Gamma Logs



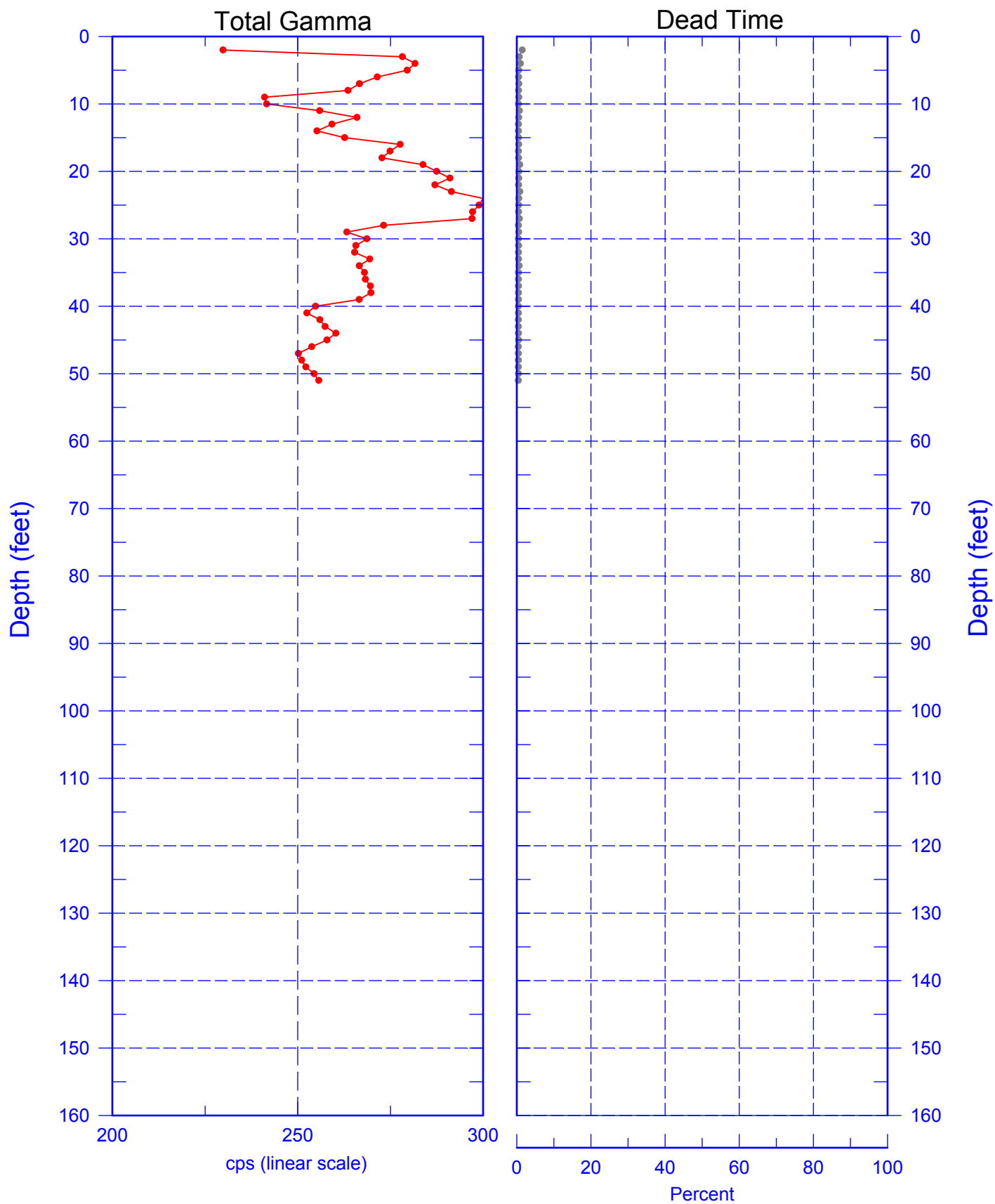
Zero Reference = Top of Casing

# 299-E24-63 (A5918) Combination Plot



# 299-E24-63 (A5918)

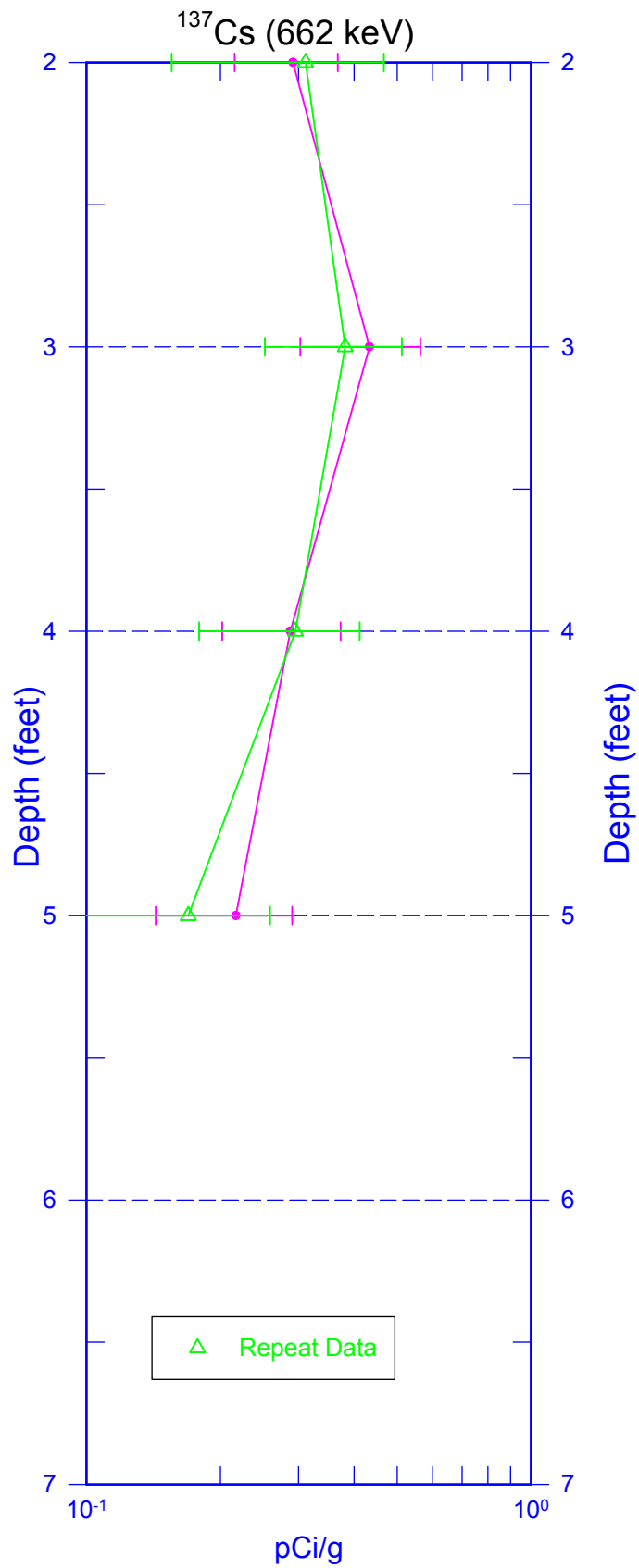
## Total Gamma & Dead Time



Reference - Top of Casing

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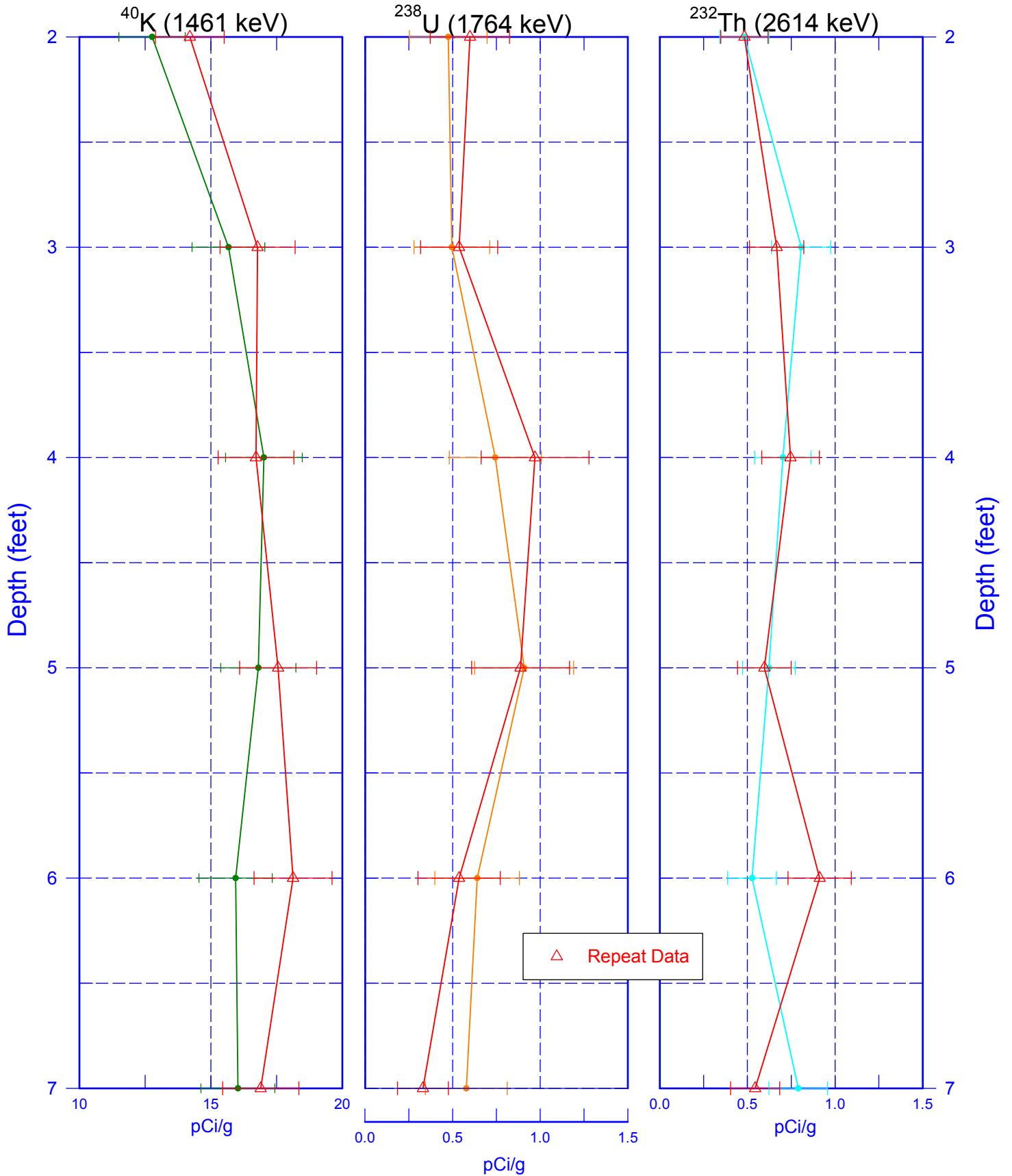
## Repeat Section for Man-Made Radionuclides



Zero Reference - Top of Casing

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## Repeat Section of Natural Gamma Logs



Zero Reference - Top of Casing